Henry Earnest

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EDUCATION

Brown University | *B.Sc, Computer Science | GPA: 3.85/4.00*   ***Expected Graduation May 2025***
- Relevant coursework: 3D Game Engine Development, 2D Game Engines, Computer Vision, Computer Graphics, Software Engineering, Deep Learning, Data Structures and Algorithms, Computer Systems, Discrete Structures and Probability, Statistical Inference

University High School | *GPA: 4.00/4.00*   *Sep 2017 – May 2021*

EXPERIENCE

Brupisoft | *Game Developer*   *May 2023 – March 2024*
- Generated a new game design, producing design documents and discussing software requirements with the owner.
- Analyzed and reiterated planned game engine architecture during Agile Scrum-inspired weekly one-on-one meetings.
- Developed and evolved OpenGL programs that demonstrated capabilities for future game development.
- Prioritized future Mobile App Development and Parallel Computing in code development and code analysis meetings.

Brown University School of Engineering | *IT Technical Assistant*   *Sep 2022 – Present*
- Crafted a prototype application illustrating the potential of Google Apps Script for controlling access to Google Forms.
- Presented the demo to the IT Head and deliberated over cybersecurity, pivoting towards a Cloud Computing solution.
- Handled customer IT issues as they arrived during shifts.

Town of Normal | *IT Intern*   *Jun 2023 – Aug 2023*
- Used the SharePoint Framework (SPFx) to create a TypeScript-based interactive web part for onboarding new employees.
- Focused on web development and ethical design during Full Stack Development to streamline DevOps in onboarding.
- Deployed interactive buttons and toggleable video display through HTML, CSS, and TypeScript for User Experience (UX).
- Familiarized with SaaS resources (Microsoft 365) and SQL services, and performed Data Analytics on past onboarding data.

Inchtone | *Software Engineer Intern*   *Jun 2022 – Aug 2022*
- Researched the possibility of a Python web scraper utilizing HTML Requests for marketing outreach and data mining.
- Discussed ethical implications and design limitations of web scraping and Big Data approaches with the CEO.
- Consulted a professional connection regarding information retrieval best practices and possible use of Wikidata or NoSQL.
- Concluded that a web scraper for database enrichment was a more ethical and reasonable approach.

PROJECTS

Shower Run, No More Happiness | *Unity Programmer | C#, Git (teams of 15-20)*   *Fall 2023, Spring 2024*
- Implemented and refined camera, movement, game management, and player interaction scripts in Unity.
- Prioritized smoothness of gameplay and user experience, using interpolation techniques in different areas of the games.
- Assisted in streamlining GitHub repository setup, enabling new programmers to swiftly commence their work.

2D Game Engine | *Java, JavaFX (solo)*   *Fall 2023*
- Constructed an extensible Java 2D game engine from scratch, with considerations for AI-driven features like pathfinding.
- Implemented concepts including a UI toolkit system, collisions, A* algorithm pathfinding, XML loading, and physics.
- Focused on Object-Oriented Programming and scalability during Game Engine Development.

InterTwine | *Java, TypeScript, MongoDB, React.js (team of 4)*   *Spring 2023*
- Developed a Java backend Spark server for real-time collaboration in Twine, an offline text story editor.
- Utilized the MongoDB RESTful API within HTTP Requests for Cloud Computing-based database management.
- Managed version control with Git to support concurrent frontend development and backend development.
- Collaborated closely with frontend developers, using data processing in API integration with frontend and database resources.
- Performed comprehensive JUnit integration testing and debugging to maintain production cluster integrity.

LEADERSHIP

Nullify Light (*Godot Wild Jam* Game) | *Godot Programmer / Lead Producer, team of 4*   *May 2024*
- Organized and scheduled game design meetings and development meetings for the team.
- Used the Godot Engine in combination with a GitHub repository to develop the game with a programming partner.
- Took charge of art direction and programming standards; finalized game concept into a usable guide the team could follow.

TECHNICAL SKILLS

Programming Languages: Java (5 yrs), Python (3 yrs), TypeScript / JavaScript (2 yrs), C, C++, C#, HTML/CSS, x86 Assembly
Frameworks/Libraries: Godot, Git, OpenGL, Unity, MongoDB, SparkJava, SPFx, NumPy, Tensorflow, React.js,
Soft Skills: Problem Solving, Communication, Collaboration, Attention to Detail, User-Centered Design, Creativity